DOCUMENT RESUME

ED 225 438 HE 015 789

TITLE	Respiratory Therapy Discipline Advisory Group Final Report. Kentucky Allied Health Project.
INSTITUTION	Kentucky Council on Public Higher Education, Frankfort.
SPONS AGENCY	Health Resources Administration (DHHS/PHS), Hyattsville, Md. Div. of Allied Health Professions.
PUB DATE	Jun 82
GRANT	5D12-AH-90062-03
NOTE	59p.; For related documents, see HE 015 788-793.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC03 Plus Postage.
DESCRIPTORS	Advisory Committees; *Allied Health Occupations Education; *Articulation (Education); *Career Ladders; Cooperative Planning; Employment Level; Health Services; Higher Education; *Intercollegiate Cooperation; Occupational Mobility; *Statewide Planning; Therapy; *Transfer Policy
IDENTIFIERS	*Kentucky Allied Health Project; *Respiratory Therapy

ABSTRACT

Respiratory therapy education in Kentucky and articulation within the field are examined, based on the Kentucky Allied Health Project (KAHP), which designed a statewide system to promote entry and exit of prepared personnel at a variety of educational levels. The KAHP model promotes articulation in learning, planning, and resource utilization. The Respiratory Therapy Discipline Advisory Group (DAG) negotiated a systemwide transfer agreement between respiratory therapy technician programs and respiratory therapist programs for the University of Kentucky Community College System and the Vocational Education System. Additional accomplishments of the DAG include developing a theoretical articulation model to illustrate all possible sequences of transfer within respiratory therapy programs in Kentucky; conducting a statewide manpower study; and identifying roles of respiratory therapists and technicians. Programs of study for the respiratory therapist and technician and the requirements for certification and registration are briefly described. DAG recommendations include development of an agreement between the vocational education system and the University of Louisville on advanced standing procedures for on-the-job trained personnel. The use of the Program Evaluation and Review Technique is also addressed, and the transfer agreement and maps of schools offering respiratory therapy programs are appended. (SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED225438

KENTUCKY ALLIED HEALTH PROJECT

RESPIRATORY THERAPY

DISCIPLINE ADVISORY GROUP

FINAL REPORT

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Kentucky Council on H.E.

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

HE 015 789

Commonwealth of Kentucky
Council on Higher Education
Frankfort, Kentucky 40601

Harry M. Snyder
Executive Director

June, 1982

RESPIRATORY THERAPY

DISCIPLINE ADVISORY GROUP MEMBERSHIP

Ms. Nancy Cangemi
Clinical Coordinator
West Kentucky State
Vocational-Technical School

*Ms. Carolyn O'Daniel
Program Director
Jefferson Community College

Mr. Dennis Parsons
Program Coordinator
University of Kentucky

*Mr. David Pennaman
Program Director
Madisonville State Vocational-
Technical School

Mr. Dixon Rapp
Technical Director
T. J. Samson Hospital

*Mr. Francis (Tri) Roberts III
Program Director
Lexington Technical Institute

Mr. John W. Southall
Program Director
Glasgow School of Health
Occupations

Mr. Toby Tomazic, R.R.T.
Technical Director
University of Kentucky
Medical Center

Mr. Jerry Walker
Program Director
University of Louisville

Mr. Charlene Ziegler, R.R.T.
Technical Director
Baptist Hospital East

*Mr. Fred Geiger
Higher Education Specialist
Council on Higher Education

Vocational Education and Community College Systemwide Articulation Committee Membership

Ms. Dorothy Ray
Kentucky Department of Education
Bureau of Vocational Education

Ms. Marie L. Piekarski
Coordinator, Program
Planning & Development
Community College System
University of Kentucky

*Also members of the Vocational Education and Community College Articulation Committee.

CONSULTANTS

Dr. Robert Hutson
Quinnipiac College

Mr. Craig Scanlan
Brookdale Community
College

ACKNOWLEDGEMENTS

While many individuals have contributed to the accomplishments of the Kentucky Allied Health Project, special thanks and recognition go to Joy M. Kirchner, and Joseph Hamburg, Dean, Allied Health Professions, University of Kentucky. Dr. Kirchner wrote the initial grant application while she was the Associate Director for Allied Health Education at the Council on Higher Education with the encouragement of Dr. Hamburg. Together their pragmatic but visionary planning laid the foundation for a statewide system of allied health education. We thank them.

A special word of thanks goes to Council staff members who helped make our work successful. We appreciate the support that the Executive Director, Harry M. Snyder gave to the project. The support given by Robert L. Barnett, Director of Policy Studies during the first two years of the project was invaluable. He guided the recruitment and hiring of project staff, oriented new staff, and assisted in providing information regarding policies and procedures that were essential to the initial planning of the project and its success. In addition, E. L. (Angie) Hebbeler, Director for Health Programs and Roy P. Peterson, Deputy Executive Director for Academic Affairs gave freely of their expertise and time. For the first two years of the project Gary G. Breegle was assistant project director. His guidance in planning, evaluation and research brought inestimable value to our efforts.

The Council's computer science staff also provided essential assistance. We appreciate the support of Michael R. Bailey, Linda P. Eldridge, Angela Mahoney and J. Kenneth Walker.

The reports could not have been prepared without the help of the Council's secretarial staff. In particular we are grateful to Darlene Blade, Teresa K. Kinne, and Ruth A. Taulbee for their patience and hardwork during the preparation of the reports. We also appreciate the secretarial assistance of Elaine F. Fultz, Diana Mangeot, Brenda Sageser, Shari Sullivan, Sandy K. Thurmond, Charlotte Vance and Sandy Waits.

We asked many others for their advice and counsel, and wish to recognize them for their contribution. They include the following: Wanda D. Bigham, Morehead State University; Ann S. Bisconti, American Society of Allied Health Professions; Keith D. Blayney, University of Alabama; Ralph Boatman, University of North Carolina; Frank G. Dickey, Chairman, National Commission on Allied Health Education; Marie C. Dietrich, New Jersey School of Allied Health Professions; Carley Dodd, Western Kentucky University; Richard J. Dowling, American Society of Allied Health Professions; Eleanor Gilpatrick, Hunter College; Robert Hutson, Quinnipiac College; Frank Kirk, International Technologies; Robert E. Kinsinger, W. K. Kellogg Foundation; William Knisely, Medical University of South Carolina; Craig Scanlan, Brookdale Community College; Dan Southern, Western Carolina University; Sharon Sweeting, Jackson Memorial Hospital; C. Kenneth Tanner, University of Tennessee; Robert Tomlinson, University of Illinois; and Irene Woodall, Bala-Cynwyd, Pennsylvania.

PREFACE

In the fall of 1978 the Kentucky Council on Higher Education was awarded a grant from the U. S. Department of Health and Human Services. The purpose of the grant (i.e. the Kentucky Allied Health Project (KAHP)) was to develop an articulated educational system within and among the various allied health programs throughout the state.

KAHP provided a needed forum for both respiratory therapy educators and clinicians. Monthly meetings allowed for the interaction between and among the educators and clinicians, thus removing the geographical isolation which had previously existed. Major issues needed to be addressed including: 1) the lack of an accepted role and function delineation; 2) the significant proportion of practicing clinicians having little or no formal education; 3) the dearth of manpower data required for successful planning to meet the Commonwealth's current and future needs.

The process of articulation development included several specific activities:

1. Delineation of roles and functions per level of practitioner.
2. Design of model curricula per level of educational program.
3. Comparison of existing program curricula.
4. Design of a statewide articulation model.
5. Development of specific transfer agreements within the articulation model.

The respiratory therapy DAG decided to use the HSMS method for task analysis and curriculum design as an objective means by which both role delineation and curriculum development could emerge. This activity is still in process and is expected to continue.

System-wide articulation was addressed and accomplished during KAHP by the Vocational Education system and the Community College system of the University of Kentucky. The completed transfer agreement transfers 31 credit hours of respiratory therapy education acquired at any of the three vocational education respiratory therapy technician programs toward the associate degree respiratory therapist programs at either Lexington Technical Institute or Jefferson Community College.

In addition, a successful statewide manpower survey of respiratory therapy personnel was completed with the assistance of the Kentucky Hospital Association and the Department for Human Resources, Health and Vital Statistics Office. The results of this survey has provided crucial information for existing program review and new program planning.

The respiratory therapy DAG wishes to pursue several goals in the future: 1) completion of the HSMS study; 2) development of a long-range plan for respiratory therapy education statewide; 3) dissemination of the results of both the manpower study and the HSMS study to appropriate users of this information; and 4) continuation of communication among respiratory therapy educators and clinicians.

SUMMARY

The major goal of the Kentucky Allied Health Project was to design an articulated statewide system permitting entry and exit of prepared personnel at a variety of educational levels. Six disciplinary clusters were included in the project (1) clinical laboratory sciences, (2) dental auxiliaries, (3) dietetics/nutrition, (4) rehabilitation therapies, (5) radiological sciences, and (6) respiratory therapy.

Highlights of the accomplishments of the Respiratory Therapy Discipline Advisory Group include the following:

1. Negotiation of a System Wide Transfer Agreement. A system wide transfer agreement between the University of Kentucky Community College System and the Vocational Education System was approved in June, 1981. The agreement specified the following:

   . Eligible graduates from respiratory therapy technician programs would be awarded 31 credit hours toward the 36 credit hours of respiratory therapy technician courses.

   . General education course requirements would have to be completed prior to completing the 6 credit hours of respiratory therapy course work.

2. Development of a Theoretical Articulation Model. A theoretical articulation model was developed which illustrated all possible sequences of transfer within respiratory therapy in the Commonwealth of Kentucky.

3. Completion of a Statewide Respiratory Therapy Manpower Study. A respiratory therapy manpower study was completed in April, 1982. The results from this study will help provide information for more sound decisions regarding statewide planning for respiratory therapy education. Results of this study are available as a separate report titled "Respiratory Therapy Manpower in Kentucky, 1981: A Statewide Study".

Recommendations

After three years of meetings and communications, the Discipline Advisory Group members believed that statewide planning for respiratory therapy education (i.e., including articulation) should remain a cooperative effort. With this in mind, the group developed the following recommendations for future action:

1.0 Respiratory Therapy roles and functions must be delineated. Both clinicians and educators should be able to use the results.

   1.1 The Respiratory Therapy DAG should continue utilizing the HSMS method for task analysis, role delineation and curriculum development.

   1.2 HSMS results should be evaluated for comparability to existing job structures and curricula.

1.3 HSMS results should be pilot-tested in clinical settings respective to experimental job restructuring.

1.4 Educational curricula emerging from HSMS should be the basis for model curricula in planning future respiratory therapy programs. In addition, existing programs should plan a phased transition toward the HSMS model curricula.

1.5 Advanced/specialized levels of respiratory education (bachelor, neonatal, etc.) should be identified based on HSMS methodology.

2.0 Current articulation efforts should be continued and new efforts should be encouraged.

2.1 Evaluation procedures should be established for current articulation agreements.

2.2 Additional articulation agreements should be developed, including an agreement between the vocational education system and the University of Louisville and advanced standing procedures for on-the-job trained personnel.

3.0 Continue collecting respiratory therapy manpower date on a biannual basis so that more sensitive manpower projection models can be designed.

3.1 Disseminate current manpower results to all potential users; Kentucky Hospital Association, Department for Human Resources, professional organizations, etc.

4.0 Group maintenance should be addressed through various support mechanisms.

4.1 Seek and recruit additional DAG members to gain fresh insight and maintain objectivity.

4.2 Publish and disseminate DAG findings and recommendations.

4.3 DAGs should be paid consultant fees where appropriate and feasible.

TABLE OF CONTENTS

	Page
ADVISORY GROUP MEMBERSHIP	ii
ACKNOWLEDGEMENTS	iii
PREFACE	iv
SUMMARY	v
I. PROJECT OVERVIEW	1
Setting	1
Purpose	3
Significance	4
Organization	6
Approach to Leadership	13
II. RESPIRATORY THERAPY EDUCATION	20
Respiratory Therapy Technician	21
Respiratory Therapist	22
III. DISCIPLINE ADVISORY GROUP ACTIVITIES	27
Phase One: Orientation Activities	27
Phase Two: Model Curriculum Activities	27
Phase Three: Negotiating Transfer Agreements	30
IV. RESULTS	34
Transfer Agreement	34
Recommendations	34
APPENDIX A Planning and Evaluation with PERT	37
APPENDIX B Respiratory Therapy Program Inventory	41
APPENDIX C Systemwide Transfer Agreement	45

1 PROJECT OVERVIEW

Setting for the Project

The Kentucky Council on Higher Education, a statewide coordinating board, was awarded a grant in 1978 from the U.S. Department of Health and Human Services to develop a statewide system for allied health education. To adequately describe the development of KAHP, a brief description/definition of the purposes and functions of coordinating boards will be presented.

Kentucky Higher Education and Kentucky State Government are by necessity linked together, sometimes as adversaries, sometimes as partners. Sandwiched between the public colleges, universities and state government is the Kentucky Council on Higher Education, a statewide coordinating board.

The Council is one of the country's oldest higher education coordinating agencies (1934); however, until it was strengthened in 1966 and again in 1972, it had little authority with which to perform its coordinating responsibilities.

In the 1970's the Commonwealth, through the Council on Higher Education and with the full cooperation of the universities, took the initial steps toward the development of a system of higher education. A 1976 Council report, Kentucky and Comprehensive Planning for Higher Education, states:[1]

> Although Kentucky has a great variety of public institutions, they are not organized into a cooperative system through a coordinated balance of programs, through consideration of unnecessary duplication or overlapping responsibilities....

In 1977, the adoption of mission statements was aimed at organizing a system of higher education. The Council stated that the system was to promote "quality education and research, efficient use of resources, effective communications and smooth movement of students between institutions." The Kentucky Allied Health Project (KAHP) was conceived and designed as a sub-system within this total system. As a sub-system for allied health education, KAHP would strive for both efficient utilization of resources and the development of smooth movement of students between institutions.

The publication entitled "A System of Higher Education in Kentucky Including Mission Statements" presents several characteristics of this system.[2] Two characteristics which directly relate to the goals of the Kentucky Allied Health Project are:

1. "Centralized coordination of program offerings at all levels and among all institutions."

2. "Recognition of and program articulation with the vocational schools in implementing the 'career lattice' concept in post-secondary education."

For a statewide system of higher education to function smoothly, policy decisions must be made that support the characteristics of the system. Each institution must support the system's development. In a system of higher education, one of the central requirements is cooperation between and among institutions.

The Council's belief in and support of a higher education system provided the conceptual framework for KAHP. All curriculum decisions were entirely the responsibility of the cooperating faculty and institutions. In fact, because the Council views academic freedom as a universal and

absolute concept, the success or failure of KAHP was directly related to the institutional faculties. These faculties had to support the philosophy of articulation, be willing to engage in curriculum experimentation and to not only consider the needs of their respective institutions but the needs of the state as a whole. Some faculties did this with great success and a sense of commitment to students from all levels of higher education and all types or institutions (i.e., vocational, private, public, and proprietary); other faculties clung to professional and personal vested interests and were unable to respond to state and/or institutional needs.

The Council's willingness to respect and recognize the claims of academic freedom and procedural autonomy and the institution's equal willingness to recognize the state's right to participate in statewide planning for allied health education contributed to some of KAHP's success. These cooperative attitudes resulted from the fact that the formal structure brought the institutions and the Council together as partners in a joint venture firmly believing in shared group decision making and leadership.

Purpose of the Project

The purpose of the Kentucky Allied Health Project (KAHP) is to use the resources available to develop and implement a model articulated system of allied health education. The articulated system is viewed in the broadest sense to include articulation in learning (i.e., plans to permit a smooth transition from one education level to another) and articulation in educational planning and resource utilization. There are currently 105 allied health programs in Kentucky, seventy-two (72) of these programs are offered by the public sector. Allied health activities have significantly increased the interinstitutional cooperation and coordination among these programs.

Significance of the Kentucky Allied Health Project

Allied Health education programs in the 1960s underwent a significant growth phase fueled by federal monies from the Allied Health Professions Act of 1966. The funding stimulated the coalescence of many programs into schools of allied health professions in a collegiate or university setting. These schools expanded their student enrollments to fill the proliferating programs which represented a response to the nation's diverse health manpower needs.

However, curtailment of direct federal funding coupled with greater governmental demands for fiscal accountability in the late 1970s and early 1980s led to such events as program moratoria and a closer scrutiny of the fundamental goals and objectives of these schools.

While the development of allied health education has been characteristically segmented, the impact on the management of education for the 1980s mandates activities that are collaborative and articulated. Can allied health education in Kentucky, faced with such driving forces as shrinking economic resources, demands for accountability in costs, productivity and outcomes and changes in major technologies, meet these challenges?

In an attempt to meet these challenges, the Commonwealth of Kentucky has proposed the development of a statewide system for allied health education. This system interlocks segmented educational components into a comprehensive structure. The system is based upon three major social concerns:

(1) The concern to meet the needs of the patient.

Many driving forces are pressing for new approaches to allied health education which will culminate in a comprehensive system of care for the patient. If the goal of comprehensive care is to be

achieved, there must be meaningful collaborative arrangements.

(2) The concern to meet the needs of students.

Students are seeking mechanisms for career mobility. A system of allied health education must be developed to help meet these needs. Much of the research on vocational choice and career mobility strongly support a flexible system of education with several entry and exit points. The goal of Kentucky's system of allied health education is to eliminate any unnecessary duplication or artificially imposed barriers that inhibit the ability or motivations of the individual.

(3) The concern to slow the spiraling cost of health care.

Allied health education cannot continue to operate oblivious to the cost to the patient. Allied health educators must recognize and find solutions to the problems of (1) eliminating unnecessary program duplication, (2) avoiding overtraining in terms of functions performed, and (3) improving the effectiveness and efficiency of programs.

In summary, the Kentucky Allied Health System is based upon three major social concerns: (1) the goal of comprehensive care for the individual, (2) the educational needs of the students, and (3) better utilization of existing resources.

Several barriers make the task of developing a system for allied health a difficult one; barriers created by curricula, educational institutions, health care facilities, and laws and state government agencies. However, perhaps the most formidable problem is overcoming professional biases. The temptation to exercise territorial imperatives is understandable. However, our greatest success occurred when educators philosophically believed in career mobility. In contrast, our greatest failures occurred when educators did not hold this philosophy and carefully guarded their "territory." To a

very real extent, philosophy and territoriality retarded progress.

Perhaps the significance of KAHP is that a system has been developed considering:

What is best for the patient?

What is best for the student?

How can a system of allied health education be developed that is highly efficient and integrated?

Organization of KAHP

Six phases were designed to meet KAHP's major objective of developing and implementing a statewide system of articulated allied health education. These phases are summarized in Table 1.0.

Table 1.0.

Phases of the Kentucky Allied Health Project

Phase I	Phase II	Phase III
Literature Review Manpower/Program Data Program Directory Evaluation Design Task Force	Six Discipline Advisory Groups Evaluation and Research Technical Advisory Group Role and Function Delineations Curriculum Reviews Manpower Models	Model Curricula Potential Articulation Designs Transfer Agreements Drafts System Recommendations
Phase IV	**Phase V**	**Phase VI**
Transfer Agreement Negotiations	Final Articulation Designs Articulation System Preparation Recommendations to CHE for Action	Statewide System Project Evaluation Articulation System Monitoring

To develop a model for statewide planning in allied helath education, six disciplinary clusters were chosen. These clusters include: (1) clinical laboratory sciences, (2) dental auxiliaries, (3) nutrition/dietetics, (4) radiological sciences, (5) rehabilitation therapies, and (6) respiratory therapy. All levels of programs within each discipline cluster which existed in Kentucky were included in the system.

Phase I: Planning

KAHP's planning was accomplished by several individuals and groups working in concert providing a rich interplay of ideas and abilities. In the planning phase, the staff began a literature review to determine if similar efforts had been made, their strengths and weaknesses, and their relevance to KAHP. In addition, the staff began to synthesize relevant manpower and educational program data. The merging of allied health manpower data and educational program data was viewed as essential for statewide planning. While the Council collected information regarding public higher education, a complete directory needed to include private education, vocational education, hospital-based programs, and proprietary programs. Consequently, the first planning task was to complete a statewide inventory of allied health education programs. This inventory provided the basis for activating the discipline advisory groups for Phase II.

The establishment of an overall project evaluation design was also completed in Phase I. The planning and evaluation procedure known as Program Evaluation and Review Technique (PERT) was selected to provide continuous program evaluation of progress toward the achievement of predetermined objectives.[3]

A final activity in Phase I was the activation of the Allied Health Task

Force in May, 1979. The fifteen (15) member Task Force was composed of representatives from the public colleges and universities, independent colleges and universities, vocational schools, practicing clinicians, and hospital administrators. The primary objectives for the Task Force were to provide general coordination for the project and help secure support for the project from essential publics.

Phase II: Developing and Comparing Curricula

The first step for Phase II was to activate the six discipline advisory groups in September, 1979. The membership for these six advisory groups was recommended by the Allied Health Task Force. Each group was composed of approximately 15 members (a total of 90 individuals). These individuals were chosen to represent public and independent colleges and universities, vocational schools, proprietary schools, hospital-based programs, practicing clinicians, and professional organizations. (See Figure 1.0.) The central concept used in selecting these advisory group members was that those individuals responsible for implementing project recommendations should assume key leadership positions in developing the recommendations. It was also the project staff's basic belief that there should be shared responsibility between educational institutions and the statewide coordinating board for planning a system of allied health education.

In addition to the activation of six discipline advisory groups, the project was also assisted by an Evaluation and Research Technical Advisory Group. The primary objectives of this group were to (1) develop the methods

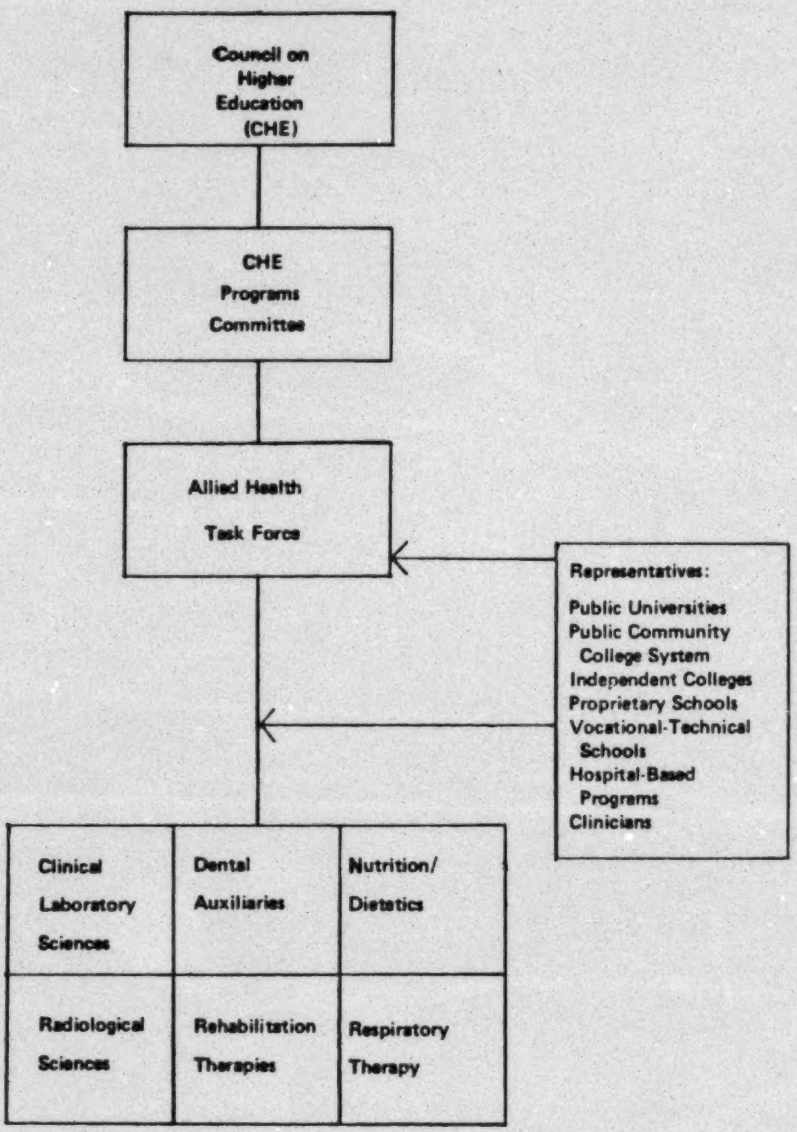


Figure 1.0 Organizational Structure of the Kentucky Allied Health Project

and instruments for the evaluation and implementation phase of the project, (2) review a competencies research model for use by two discipline advisory groups, (3) develop a manpower projection model, (4) develop a graduate follow-up model, (5) develop a program cost assessment model, (6) develop a practitioner profile component, and (7) guide data collection and analysis.

A major activity in Phase II was the delineation of roles and functions for each level of practice within each allied health profession and the identification of competencies by level with the goal of developing curricula. This task was seen as an essential prerequisite to the design of articulation models. Each discipline advisory group approached the delineation of roles and functions differently depending on the success of their respective professional associations.

The Respiratory Therapy and Nutrition/Dietetics groups chose to use the Health Services Mobility Study (HSMS) Method of Task Analysis and Curriculum Design [4] since neither group had an acceptable and comprehensive delineation of their practices. The Clinical Laboratory Sciences group validated competencies that had been developed by their professional society. The Dental Auxiliaries group chose to utilize the roles of dental auxiliaries as specified by the Kentucky Dental Practice Act. While they realized that roles may vary by state, they chose to develop an articulation model that could work within Kentucky.

The Radiological Sciences group was represented by several similar but yet unique professions (i.e., radiography, radiation therapy, nuclear medicine, and radiation health). This group approached the delineation of roles and functions on separate but parallel paths. Each discipline in the cluster used existing resources to finalize their curricula.

While each discipline advisory group was developing a curricula that contained the information needed for safe, competent professional practice, they also gathered program-specific information such as course outlines, clock hours, percentage of lecture, lab/and/or clinical components per course, minimal acceptable grades and the pre-professional and professional components of each curriculum. The data provided the fundamental information to begin planning the early phases of transfer negotiations.

Another major activity in Phase II was the development of a resources/requirements model for each discipline for the purpose of manpower projections. The manpower data is essential information when considering the establishment, expansion, continuation, or termination of allied health programs. Three manpower models will be applied to the five allied health disciplines studied in KAHP. The models are: (1) manpower-population ratio, (2) trend analysis based on time series, and (3) health needs. Based on the manpower models KAHP completed for physical therapy [5] and respiratory therapy, [6] data are being collected to complete the clinical laboratory sciences and radiological sciences manpower models. While the limitations of making manpower projections are recognized, the information added another dimension to statewide planning efforts.

Phase III: Articulation Review

Joint meetings between the Discipline Advisory Groups and the Allied Health Task Force were held in the early summer of 1981. Together the groups (1) reviewed developed curricula, (2) reviewed the articulation designs within each discipline, (3) discussed recommendations for implementing and finalizing draft articulation agreements, and (4) discussed recommendations

for implementing, monitoring, and evaluating the system.

These joint meetings provided an opportunity for the groups to share not only their products such as curricula and draft transfer agreements, but also to discuss broader and less measurable outcomes of the process.

For example, the Task Force representative from vocational education shared the following:

> When the vocational education administrators asked the vocational faculty to participate on this project they agreed, but with little enthusiasm. However, their efforts resulted in the development of mutual respect between vocational education faculty and higher education faculty in the state. In addition, it enhanced communication within vocational educational programs. As a result of this communication, curricula were revised and strengthened. Furthermore, the vocational education faculty feel kinder toward higher education than they have in the past. Previously, they had felt like second class citizens in higher education. They emerged feeling that they were partners or co-equals. Consequently, they felt good about themselves and their programs. We have better vocational education programs because of their efforts.

Phase IV: Developing and Negotiating Transfer Agreements

After the joint meeting(s) of the Discipline Advisory Groups and the Task Force, mini-meetings were planned with selected Task Force members and faculty to help plan for the implementation of some of the transfer agreements.

Competency-based education was used as the theoretical framework for developing and negotiating transfer agreements. Types of agreements included the block credit transfer agreement and the course specific transfer agreement. Agreements were negotiated between educational systems and between specific programs/institutions. [7]

Phase V: Preparing the Articulation System

The primary activities in this phase included (1) final preparation of

discipline specific articulation designs and (2) the preparation of a comprehensive statewide articulation system. Throughout the project the Task Force had a major responsibility in the formulation of recommendations for a statewide system. These recommendations will go to the Council's Programs Committee and then to the Council on Higher Education for action.

Phase VI: Evaluation and Revision

Two primary evaluation components were planned: (1) evaluation of the project's ability to meet its stated objectives and (2) recommended procedures for evaluating the ability of the implemented system to facilitate the entry into and exit from an allied health educational program by capitalizing on student's previous relevant education and experience (i.e., ongoing monitoring of the success of the transfer agreements.)

KAHP's Approach to Leadership.

This section is included to share with others the philosophy upon which the group meetings were planned. In addition it will explain the evoluntary developments in terms of group process. Particular emphasis will be placed on the importance of group centered leadership and leadership as a shared function. It is hoped that by sharing these intimate relationships others will be encouraged to participate in similar endeavors.

Traditional views of leadership: (1) focus on the group's task; (2) the leader directs and controls; (3) the feelings and emotions of group members are not recognized; (4) the leader assumes full responsibility for decisions; and (5) the task becomes more important than individual needs.

These traditional views of leadership were abandoned. KAHP staff viewed leadership as "Group Centered Leadership." While fully recognizing

the importance of the task of developing a statewide system for allied health education, we also recognized that member interactions and the emotional reactions of individuals would have a profound effect on the successful completion of our task.

Consequently we viewed leadership as service. Such service included 1) helping the group develop a trusting climate, 2) encouraging members to freely express their feelings and 3) assisting members in accomplishing their task.

Leadership was not something that just the designated project staff members did. Leadership was shared with all members of the group. By recognizing that leadership was a group responsibility, it was also recognized that success or failure would be equally shared by all group members. This concept of shared group leadership was important because it recognized that no one person could possibly be simultaneously aware of all the group-maintenance tasks, group-building tasks, and individual problems existing at any given moment within the group. Such awareness must be shared by all members of the group.

In summary, our belief in group centered leadership was based on the assumptions that: (1) the meetings were owned by the members; the KAHP staff was a helper to the group; however, the group was responsible for all major decisions; (2) members not only shared ownership, but responsiblity for completing tasks; (3) feelings, emotions, conflict were recognized as legitimate; and (4) the needs and feelings of all members were viewed as important.

With this as our philosophical framework, we observed each discipline advisory group work through three stages of group development.[8] Stage one considers orientation, hesitant participation, and search for meaning.

Our orientation meeting held on September 6, 1979 provided the setting for stage one "Goblet issues". During this stage group members size each other up through discussion of nonemotionally laden topics. The term comes from cocktail party type communication where each guest sizes up the others by looking through a cocktail "goblet".

At this meeting Dr. Joy Kirchner, who had written the project grant, described the historical foundation for the project. Project objectives were described along with the roles of the discipline advisory groups and the project staff. Also at this meeting a group process activity called "Self Portrait" was completed. The self-portrait activity was planned to help promote positive relationships among and between discipline advisory group members and project staff. The advisory group members and project staff were asked to draw a story of their lives on a large piece of paper and share this story with the other members of the groups. While on the surface this appears to be a relatively unsophisticated procedure, it provided a successful way to meet one another fairly quickly. Hopefully, it assisted in the development of an accepting environment within which the groups could work during the coming year.

In stage two, issues regarding dominance, control, and power emerge. Hostility to the "leader" may also emerge as the group members realize that the "leader" is not perfect. We found that some meetings were not as effective as others; some advisory groups willingly shared all their available resources, (i.e., curricula, admissions policies and student success/failure rates) while other groups found it difficult to share. Democracy takes time; the price of group decision making and consensus is time, trust, and openness. Futhermore, tradition seemed to inhibit meeting effectiveness. For example, the older more established professions such as clinical laboratory sciences and

the rehabilitation therapies had much more difficulty planning sequences of transfer, especially for the professional courses within the curricula. In contrast, respiratory therapy found the task less cumbersome. However, at no time during stage two did we feel overt hostility.

In stage three group members began to have concerns about intimacy and closeness. As the groups began to be able to more freely address their positive and negative feelings, they became more cohesive and mature. This maturity was characterized by the following:

(1) Serious involvement in activities

As the members began to feel a sense of ownership and involvement in their tasks, they assumed greater responsibility for such activites as report writing and team building.

(2) Trust and caring

The trust and caring that emerged in some groups allowed the members to express concerns, feelings, fears, and ideas.

(3) Accepting new members

It was recognized that group membership would always be in the process of change, adding new members and losing old ones. However, new members were accepted and seen as a potential resource.

The previous description basically describes the work of the five discipline advisory groups that were viewed as somewhat or very successful. However, not all our discipline advisory groups were successful; and we would like to briefly try to present a rationale for why one group failed. A successful group interacts over time to accomplish one or more goals that are valued by each of the participating individuals.[9] The physical therapy advisory group's philosophy statement stated that there was currently no organized effort on the part of the physical therapy profession to facilitate the upward mobility

of the physical therapist's assistant within the profession. Mirroring this philosophy, physical therapy's support of transfer for the assistant was somewhat less than whole hearted.*

As a result the project goals were in conflict with the goals of the physical therapy advisory group members. Because upward mobility for the assistant was not "valued" by this group, the project's objectives for this group were not achieved. This was further reinforced to us by such statements as - "I don't feel its appropriate for this group to do more at this time." "Prove there is a need for articulation by a statistical study." "We met our objectives a long time ago, when we stated articulation was not appropriate at this time" " I would prefer if the project were terminated."

To summarize, no matter how competent the group leader or how many resources are available in terms of time and money, if the group does not highly value the goals, the group will fail.

To conclude we would like to offer a number of suggestions that may be useful to newly formed groups that have as their goal the development of articulation agreements:

(1) Develop an awareness for the interdependent behaviors that must be performed by group members.

Task behaviors are those behaviors that are related to achieving the groups goals such as giving suggestions or directions and seeking information. Maintenance functions are those behaviors related to maintaining harmonious relations among

*While the Rehabilitation Therapy DAG did not develop an articulation model that transferred professional course credit, an articulation agreement between the Physical Therapy Program at the University of Louisville and the Physical Therapist Assistant program at Jefferson Community College was developed after the Rehabilitation Therapy DAG decided to discontinue meeting.

members such as helping, rewarding, relieving tension by joking, and showing satisfaction. Both task behaviors and maintenance behaviors are equally important.

(2) View leadership as a shared group function.

By viewing leadership as a shared group function, all members are encouraged to contribute and the sharing of leadership ensures that all the resources of the group will be used productively.

(3) Willingly accept new members.

While a high turnover of group membership may indicate that something is seriously wrong within the group, some turnover is natural. Welcome each new group member as a valuable resource.

(4) Allow "hidden agendas" to surface in open discussion.

Hidden agendas occur because an individual believes that the item may be judged as wrong or inappropriate, rather than as a reflection of a legitimate need or purpose. Remember, group members may be trying to simultaneously achieve individual and group goals. Often the degree to which both goals can be achieved determine the success of the group. Recognize that members may bring a hidden agenda to the group--one they hesitate to share openly because it is so self-oriented. Allow hidden agendas to surface in open discussion so that personal needs may be handled without disturbing the group.

(5) View conflict as natural.

Most substantive issues will involve some conflict. View this conflict as natural and indeed inevitable. Conflict worked through constructively can provide an important success experience for the group. Furthermore, it will reduce the fear of conflict and further strengthen the group.

REFERENCES

1. Kentucky Council on Higher Education, Kentucky and Comprehensive Planning for Higher Education, Council on Higher Education, Frankfort, KY, 1976.

2. A System of Higher Education in Kentucky including University Mission Statements, Council on Higher Education. Frankfort, KY, 1977.

3. Breegle, G. G. "Planning a Kentucky Allied Health Education Project with the Program Evaluation and Review Technique." Paper presented at the annual meeting of the American Society of Allied Health Professions, Colorado Springs, Colorado, 17 November, 1979.

4. Gilpatrick, Eleanor: The Health Services Mobility Study Method of Task Analysis and Curriculum Design. Employment and Training Administration, U. S. Department of Labor Contract No. 82-34-69-34, 1977.

5. Breegle, G. and King, E. "Three Futures: A Physical Therapy Manpower Planner's Dilemma" Third Annual Needs Assessment Conference. Louisville, KY: Mar., 1981.

6. Geiger, F. and King, E. "Respiratory Therapy Manpower in Kentucky, 1981: A Statewide Study." Paper presented to the Allied Health Task Force, Frankfort, Kentucky, 24 May, 1982.

7. King, E. and Breegle, G. "A Comparison of Administrative, Faculty/ Clinician and Student Needs to Facilitate Statewide Planning in Allied Health Education." Paper presented at the Third National Conference in Need Assessment in Health and Human Service Systems, Louisville, Kentucky, March, 1981.

8. Yalom, Irvin: The Theory and Practice of Group Psycho Therapy. Basic Books, Inc., New York, 1970.

9. Bertcher, Harvey T.: Group Participation: Techniques for leaders and members. Sage Publications, Beverly Hills, 1979.

2 RESPIRATORY THERAPY EDUCATION

For the purposes of the Kentucky Allied Health Project respiratory therapy included both respiratory therapy programs and respiratory therapy technician programs.

The overall goal of the Discipline Advisory Group was to negotiate transfer agreements between respiratory therapy technician programs and respiratory therapist programs. Representatives from each of the respiratory therapy/ technician programs existing in Kentucky participated on the DAG.

To provide an overview of each discipline the following discussion presents 1) definitions, 2) a description of educational pathways to practice, 3) certification, registration and 4) educational challenges of articulation.

Respiratory therapy is a health care occupation comprised of practitioners who, under physician supervision, are trained to actively participate in the care of patients, especially the monitoring and treatment of cardiopulmonary function.

The practice of respiratory therapy encompasses activities in the area of diagnosis, therapeutics, administration and education. Diagnostic concerns include, but are not limited to: the determination of acid-base status, blood gas values, and pulmonary function measurements. Therapeutic concerns include, but are not limited to, the application and monitoring of: oxygen

therapy; ventilatory therapy; artificial airway care; bronchial hygiene therapy; cardiopulmonary resuscitation; and respiratory rehabilitation therapy.

RESPIRATORY THERAPY TECHNICIAN

Definition

The respiratory therapy technician specialized in the technical details of general respiratory therapeutics. Technicians may assume clinical responsibility for specified respiratory care modalities involving the application of well-defined therapeutic techniques under the direct or indirect supervision of a therapist or physician. The technician's role does not require the exercising of independent clinical judgment; however, the technician is expected to adjust or modify therapeutic techniques within well-defined procedures based on a limited range of patient responses. Therefore, the effective use of the technician, especially in the critical care setting, requires the supervision of a respiratory therapist or a physician experienced in respiratory care.

Educational Pathways to Practice for the Respiratory Therapy Technician.

Respiratory Therapy Technician Programs are sponsored by the Bureau for Vocational Education. The programs are 45 weeks in length and provide instruction and practice necessary for the graduate to function as a respiratory therapy technician. Graduates from accredited programs are eligible for credentialing by the National Board for Respiratory Therapy (NBRT). The credential awarded to qualified technicians is the Certified Respiratory Therapy Technician (CRTT) credential. Currently there are three technician programs in Kentucky.

The certification candidate must complete the educational requirements in order to qualify for the examination which is administered through ETS. In addition, the candidates must have worked a year following completion of the educational requirements.

Educational Challenges of Articulation in Respiratory Therapy

In Kentucky most of the certificate respiratory therapy technicians programs are located within the vocational education schools. These schools do not award academic credit. Consequently, if graduates want a higher degree, all colleges and universities do not automatically accept the certificate for college credit. However, through the sharing and comparison of curricula, the challenge to negotiate transfer agreements between certificate and associate degree programs in respiratory therapy has been successfully met. The specifics of the successfully negotiated system wide transfer agreement is described in the Results section of this report.

RESPIRATORY THERAPIST

Definition

The respiratory therapist specialized in the application of scientific knowledge and theory to practical, clinical problems of respiratory care. The respiratory therapist is qualified to assume primary clinical responsibility for all respiratory care modalities, including responsibilities involved in supervision of respiratory therapy technician functions. The therapist may be required to exercise considerable independent, clinical judgment in the respiratory care of patients under the direct or indirect supervision of a physician. Further, the therapist is capable of serving as a technical resource person to the

physician with regard to current practices in respiratory care, and to the hospital staff regarding effective and safe methods for administering respiratory therapy.

Educational Pathways to Practice in Respiratory Therapy

Respiratory Therapist Programs are 20-21 months in length, and provide educational experiences for the graduate to function as a respiratory therapist. Graduates from accredited programs are eligible for credentialing by the NBRT. The credential awarded to qualified therapists is the Registered Respiratory Therapist (RRT) credential.

The registry candidate must also fulfill educational requirements, followed by a year of work prior to registry. The registry examination is two-fold: 1) a comprehensive written examination, and 2) clinical simulation examination. The candidate may sit for the first part prior to completion of the work requirement; but the clinical simulation cannot be taken until the comprehensive written (Part 1) has been successfully passed. The issue of variable work experiences combined with the national concern of credential demonstration and accountability have led to the following plans by the National Board for Respiratory Therapy: Beginning in 1983, a single-entry examination will be administered by the NBRT to all qualifying candidates both technician and therapist. The examination will be administered three times a year and the successful examinees will be credentialed as "certified." The qualifying candidates will still be eligible at the appropriate time to sit for the clinical simulation to become registered. All existing registered therapists can request, in 1983, to have the "certification" credential awarded to them without further examination.

Educational Challenges of Articulation in Respiratory Therapy

Associate degree graduates in respiratory therapy who wish to earn a Baccalaureate Degree in Health Sciences are eligible for admission to the multidisciplinary Bachelor of Health Science Program at the University of Kentucky. The curriculum is designed to prepare faculty/administrators for respiratory therapy programs.

However, two important issues in respiratory therapy education that impact on articulation are role and function delineation and on-the-job trained personnel.

Role and function delineation.

To address this issue the DAG is using a sophisticated method called the Health Services Mobility Study (HSMS) to identify all respiratory therapy modalities in terms of task function. While the study is not yet completed, preliminary findings indicate that almost all respiratory therapy tasks require significant skill and knowledge levels. How can these skills and knowledges be obtained?

The historical development of respiratory therapy education programs illustrated in Figure 1.0 helps explain how the profession is attempting to answer this question.

1936	American Association for Inhalation Therapy established.
1936	AMA House of Delegates adopted resolution regarding the emergence of the field of respiratory therapy.
1957	The essentials for respiratory therapy educational programs proposed by the New York State Society of Anesthesiologists were approved by the Council on Medical Education.
1957-1962	Several pilot programs adopted the proposed curriculum and agreed that the minimum standards represented a realistic approach to respiratory therapy education.
1963	Board of Schools of Inhalation Therapy met to assist the Council on Medical Education in evaluating educational programs. This Board was comprised of representatives of the American Society of Anesthesiologists, the American College of Chest Physicians and the American Association for Inhalation Therapy.
1957-1967	The relatively new field of inhalation therapy was rapidly developing and changing. Prior to 1957, departments, if they existed, were labeled "oxygen therapy" and workers were most often orderlies. Almost as rapidly as programs were established new equipment and innovations in procedure required that inhalation therapy workers have more knowledge, increased skills, and preparation to assume more responsibility. Consequently, a revision of the Essentials were prepared in 1967 and adopted by the House of Delegates of the American Medical Association in 1967.
1960	American Registry of Inhalation Therapists established for credentialing therapists who have fulfilled educational and work-experience criteria and who passed written and practical examinations.
1966-1969	Critical need for additional trained manpower led to the establishment of semi-formal hospital-based educational programs.
1969	AAIT established a Technician Certification Board to credential technicians.
1969	JRCRTE established for the accreditation of schools for respiratory therapy.
1972	AAIT changed to AART
1972	New essentials adopted for both technician and therapist programs.
1973	American Thoracic Society joined sponsorship of the AART and JRCRTE
1974	National Board of Respiratory Therapy established to credential qualified respiratory therapy technicians and respiratory therapists.
1977	Separate essentials for technician and therapist programs adopted.
1977-1982	Development of several nontraditional/external degree respiratory therapy programs to enhance the opportunities for existing on-the-job trained practitioners to gain formal education and thus become eligible for credentialing.

Figure 1.0 Historical Development of Respiratory Therapy.

On-the-job-trained personnel.

A statewide respiratory therapy manpower study completed as part of the Kentucky Allied Health project found that approximately 42 percent of all respiratory therapy personnel in Kentucky are on-the-job trained. As a result of this finding the DAG recommended that the Commonwealth "Continue to provide methods for on-th-job trained individuals to become credentialed." In addition, further study of this problem is in progress.

The challenge of educational articulation will center on the profession's accountability. The 1980's will be a decade in which many research studies in respiratory care will emerge to better direct the efficiency of the profession. As delineation of both what is done and who does it becomes clarified, linking educational experiences to those roles will occur. Inevitably the need to control costs while being accountable to the educational curricula will encourage the development of laddering.

3 DISCIPLINE ADVISORY GROUP ACTIVITIES

The primary charge for the Respiratory Therapy Discipline Advisory Group was to develop a statewide plan for respiratory therapy education which would result in an articulated statewide system permitting entry and exit of prepared personnel at a variety of levels and improve inter-institutional efforts to share educational resources.

The purpose of this chapter is to share the Respiratory Therapy Discipline Advisory Group's activities and to describe the process that resulted in the negotiation of a system wide transfer agreement.

The Respiratory Therapy Discipline Advisory Group's activities were divided into three phases. Each phase is described as follows:

Phase One: Orientation activities. Orientation activities included a review of the charge to the Discipline Advisory Group, the sharing of each program's philosophy and goals and the use of the Program, Evaluation and Review Technique (PERT) for the planning of the DAG's activities. A description of how PERT was used to plan and evaluate the advisory group's activities is illustrated in Appendix A.

Phase Two: Model Curriculum Activities. During phase two the discipline advisory group members addressed the question of curriculum design.

This posed a recognized major concern. Currently there are two recognized levels of respiratory therapy education: the certificate respiratory therapy technician program and the associate degree respiratory therapy program. The former is usually a one-year program which prepares the graduate to become certified; the latter two-year program prepares the student to sit for the registry examination. In 1978, the American Association for Respiratory Therapy completed a role delineation study which promoted the concept that there was no significant difference in the clinical roles and functions between the Registered Respiratory Therapist and the Certified Respiratory Therapy Technician. These findings were not unanimously supported by the National Board for Respiratory Therapy which certifies and registers personnel or the Joint Review Committee which accredits respiratory therapy.

Because of the controversy surrounding the role delineation study the DAG decided to complete their own role delineation study using the Health Service Mobility Study (HSMS).

The HSMS method can be used for any area of work where tasks can be identified and described explicitly. Following a complete listing of all tasks in an occupational area, the tasks are described considering their component elements. These tasks are then scaled according to 16 different skill scales. This is followed by knowledge category identification and scaling for each task as well. The resultant data comprising skill and knowledge scale values per task, can be factor or cluster analyzed. It is the clustering of tasks that provides for the ability to delineate roles, based on the levels of skill and knowledge required to perform those tasks.

Objectives can be written which describe the skill and knowledge at levels required to perform similar task elements. These objectives are then grouped into modules. An overview of the entire process is shown in Figure 2.0.

TASK IDENTIFICATION

TASK DESCRIPTION

SKILL SCALING

&

KNOWLEDGE IDENTIFICATION
AND SCALING

CLUSTER ANALYSIS

CURRICULUM OBJECTIVES

Figure 2.0 Summary of the HSMS Methodology.

The respiratory therapy DAG utilized the HSMS methodology under the following assumption: once HSMS was completed, the results would produce model curricula per level of practice, regardless of the actual number of levels. This would be the basis for objectively comparing the existing respiratory therapy curricula. In this manner the DAG could better recommend phased modifications which all existing curricula could implement.

The DAG worked diligently on the HSMS methodology from January, 1980 until August of 1980. However, in August a major effort was made by the Community College System of the University of Kentucky and the Bureau of

Vocational Education to develop a system wide articulation agreement between technician and therapist programs. Consequently the HSMS work was de-emphasized and the primary emphasis was to develop an articulation agreement. Efforts are currently being made to complete the curriculum study.

Phase Three. Negotiation of Transfer Agreements. The process for the actual negotiation of transfer agreements is illustrated in Figure 3.0

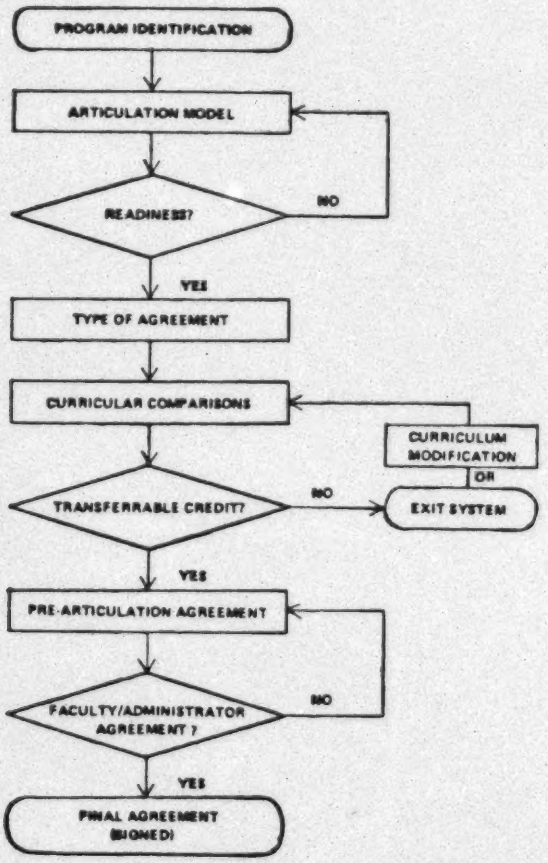


Figure 3.0. Process for Negotiating Transfer Agreements.

Each step in the process is described as follows:

Identify Programs. The primary articulation effort was to develop a system wide agreement between the Community College System and the Vocational Education System. All respiratory therapy programs from both systems were identified and included (Appendix B). This plan included five of the six respiratory therapy programs in the state. The remaining program at the University of Louisville was in the process of moving from a certificate to an associate degree and was not involved in the articulation effort.

Develop a Theoretical Articulation Model. The identified programs served as the data source for preparing a diagrammatic view of possible articulation. The resulting articulation model illustrates all the possibilities for transfer of credit. Figure 4.0 illustrates the articulation model developed for respiratory therapy.

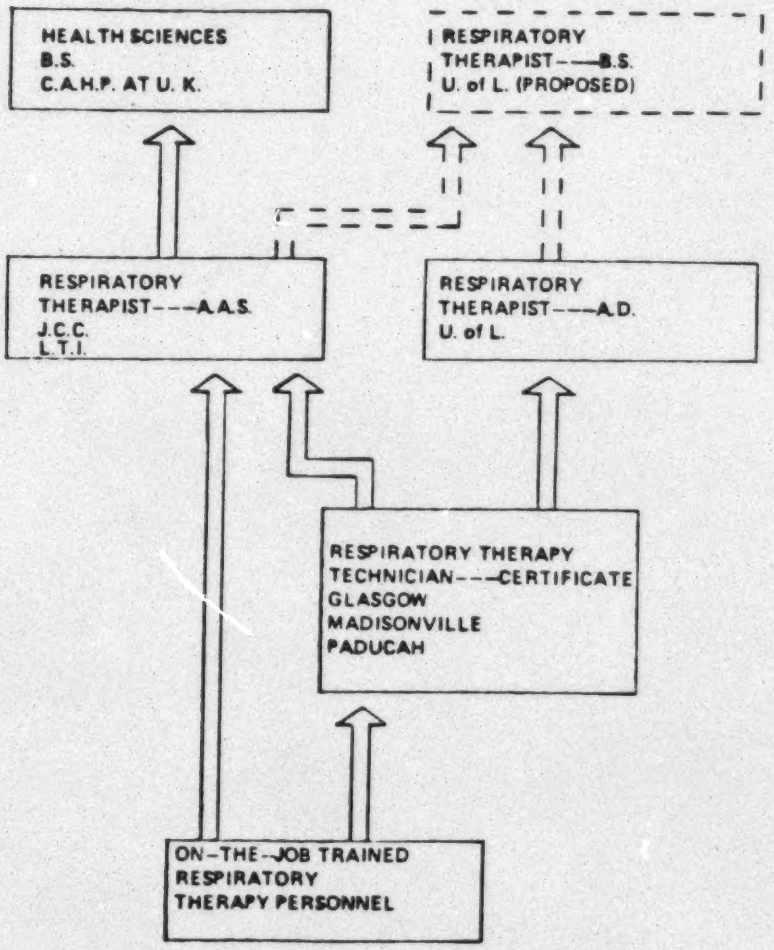


Figure 4.0. Respiratory Therapy Articulation Model.

Determine the Type of Agreement. The decision was made to develop a system wide agreement. Such an agreement would allow any vocational education respiratory therapy technician graduate to transfer into any existing community college respiratory therapist program. Once the decision was made the following steps were completed:

1. Review respective curricula including course content and sequence. The curricular comparisons took a significant amount of time. However, the process laid the groundwork for developing cooperative and trusting relationships between the programs.
2. Mutually determine the existing amount of coursework/credit transferrable. Since the vocational education system does not award traditional academic credit, a comparison of programs competencies resulted in the transfer of a block of credit for the completion of the technician program. While a specific comparison of clock hours to credit hours was made, the primary emphasis was the comparison of program competencies.
3. Draft a pre-articulation agreement. A pre-articulation agreement was developed for consideration and review by both systems. The draft became a working document for subsequent discussion and agreement.
4. Meet with administrators to review and discuss the agreement. The articulation committee system representatives met with their administrators to review the specifics of the agreement. This was done to insure that the agreement was consistent with the system's policies and procedures. Obviously this was critical to the successful impiementation of the agreement.

5. Secure approval for the final transfer agreement. To assure final approval for the transfer agreement the entire document needed to be approved by the UKCCS Program Development Committee. This occurred in June 1981.

With the approval of the transfer agreement current students and future graduates had the door to career mobility opened wider for them. In addition, both systems were enriched and their potential applicant pools were increased.

System wide Transfer Agreement

A system wide transfer agreement between the University of Kentucky Community College System and the Vocational Education System was approved in June, 1981. The agreement specified the following (Appendix C):

- Eligible graduates from respiratory therapy technician programs would be awarded 31 credit hours toward the 36 credit hours of respiratory therapy technician courses.
- General education course requirements would have to be completed prior to completing the 6 credit hours of respiratory therapy course work.

Recommendations

After three years of meetings and communications, the Discipline Advisory Group members believed that statewide planning for respiratory therapy education (i.e., including articulation) should remain a cooperative effort. With this in mind, the group developed the following recommendations for future action:

1.0 Respiratory Therapy roles and functions must be delineated. Both clinicians and educators should be able to use the results.

1.1 The Respiratory Therapy DAG should continue utilizing the HSMS method for task analysis, role delineation and curriculum development.

1.2 HSMS results should be evaluated for comparability to existing job structures and curricula.

1.3 HSMS results should be pilot-tested in clinical settings respective to experimental job restructuring.

1.4 Educational curricula emerging from HSMS should be the basis for model curricula in planning future respiratory therapy programs. In addition, existing programs should plan a phased transition toward the HSMS model curricula.

1.5 Advanced/specialized levels of respiratory education (degree/ specialization, neonatal, etc.) should be identified based on HSMS methodology.

2.0 Current articulation efforts should be continued and new efforts should be encouraged.

2.1 Evaluation procedures should be established for current articulation agreements.

2.2 Additional articulation agreements should be developed, including an agreement between the vocational education system and the University of Louisville and advanced standing procedures for on-the-job trained personnel.

3.0 Continue collecting respiratory therapy manpower data on a biannual basis so that more sensitive manpower projection models can be designed.

3.1 Disseminate current manpower results to all potential users; Kentucky Hospital Association, Department For Human Resources, professional organizations, etc.

4.0 Group maintenance should be addressed through various support mechanisms.

4.1 Seek and recruit additional DAG members to gain fresh insight and maintain objectivity.

4.2 Publish and disseminate DAG findings and recommendations.

4.3 DAGs should be paid consultant fees where appropriate and feasible.

APPENDIX A

Planning and Evaluation with PERT

Planning and Evaluation with PERT

Introduction

Planning and evaluation have been distinct challenges to persons writing proposals or implementing projects. One method for managing these challenges is the Program Evaluation and Review Technique (PERT).

PERT forced the identification of project activities that were necessary to reach the project goal and permitted evaluation of progress toward the goal. For example, when KAHP activities for the first year were planned and subjected to PERT, it was evident that failure to complete the activities in the amount of time prescribed was likely. A 68 percent probability of completing the first year activities was calculated.

Alternative solutions to the problem, as identified by PERT, were discussed by Council staff. Adjustments were made and the probability of completing the activities was elevated to 72 percent; however, the success of the project remained in doubt. Further adjustments were made and the probability of completing the first year activities increased to 95 percent.

Planning KAHP Activities

Project activities were identified and a Gantt chart was developed that depicted the activities of KAHP. Although the activities were identified and placed within time frames, the interrelationships among the activities were difficult to identify. Therefore, a "network" of activities was developed for the project. The network illustrated activities which were dependent upon other activities and activities which paralleled one another.

Three completion times, expressed in working day units, for each activity were estimated by Council staff: (a) most optimistic, (m) most likely, and (b) most pessimistic. A mean estimated time was then calculated for each of the three estimates per activity using the following formula:

$$T_E = \frac{a + 4(m)+b}{6}$$

The variance of the three mean time estimates per activity was calculated as follows:

$$V^2 = \frac{(b-a)^2}{6}$$

The critical path was the path requiring the largest amount of completion time. If sufficient amounts of time and resources were not available to complete the critical path, the success of the project was doubtful.

Several paths through the network were possible. The estimated times (T_E) for activities in each possible path were summed and a critical path (CP) was identified. The other paths were considered alternate paths.

Three methods to increase the probability of completing the activities were available:

1. Increase the time available to complete the project (TL).

2. Identify time and resources available in parallel activities that may be applied to critical path activities; thus, reducing the total time estimate for the critical path.

3. Plan to complete selected activities along the critical path in less time than estimated (i.e. reduce the estimated time).

During the project, Council staff applied the second method. The estimated time for an alternate path was subtracted from the estimated time of the critical path. The difference was "slack time" and "slack resources;" those resources were applied to another activity in the critical path; thus, the total estimated time for the critical path was reduced.

The adjustment increased the probability of completing first-year the activities 4 percent; however, the chance of success needed to be improved, if possible. The length of the critical path was further reduced by using the third method of increasing probabilities.

By planning to concentrate several Council staffs' efforts and by incorporating materials prepared throughout the initial months of the project, the estimated time was reduced.

The probability of completion was recalculated after shortening the critical path. By reallocating personnel and resources in an alternate path and by shortening the critical path estimated time, the probability of completing the first year activities, for example, was raised from 68 percent to 95 percent. Council staff were more confident that a successful project was possible. The technique was applied throughout the project.

Evaluating KAHP Activities

A process for evaluating the degree to which the specific project objectives and the project goal were reached was developed by utilizing the inherent capability of PERT, i.e. an evaluation procedure. Although the PERT evaluation procedure can be utilized at the conclusion of a project, staff decided to use a portion of the procedure periodically, as activities along the critical path were completed. Thus, continual monitoring of the project's status permitted identification of potential future trouble spots. The evaluation procedures were used for KAHP DAG, TAG, and Task Force objectives at the conclusion of year one and during the beginning of year three.

A formative interim evaluation of advisory groups' attitudes and accomplishments was requested by Dr. Elizabeth King, Associate Director for Allied Health Education and KAHP Director, in November, 1980. The results were used to help: 1) identify specific advisory groups' activities/ issues which needed attention, 2) plan the KAHP final year activities, and 3) identify activities which may continue beyond the funding cycle of KAHP.

Two evaluation designs were the foundations of all measurements. Attitudinal measurements were collected each time an advisory group met. The degrees to which advisory groups' activities were met were measured at the end of year one and during October-December, 1980 in the final year of KAHP.

Periodic evaluations of attitudes provided on-going feedback about each meeting to the KAHP staff and advisory groups. The instrument was administered at the conclusion of each meeting.

Output measures were: 1) the degree to which each advisory group's activities were accomplished, and 2) the advisory groups' attitudes. The groups' activities addressed the project's goals; attitudes were measured to assess the "climate" of the KAHP. Appendices are instruments used to collect data. The instruments were developed by the KAHP advisory groups and staff.

The schedule for attitude data collection paralleled DAG, TAG, and Task Force meeting dates (monthly). The instruments were administered by the KAHP staff at the conclusion of each meeting; each advisory group member completed an instrument. Interim activity evaluation instruments were administered in FALL, 1980 by KAHP staff at the regularly scheduled meeting or through the mail.

System Maintenance

At the conclusion of year three, staff identified activities which were necessary for the maintenance of A Statewide System for Allied Health Education. The PERT planning process was applied: (1) activities were identified, (2) a Gantt chart was constructed, (3) a network of activities was constructed, and (4) the times were estimated.

The probability of completing the activities can be calculated when the allowed completion time is determined. During system implementation, feedback from PERT evaluation procedures will provide formative evaluation data to the Council.

APPENDIX B

Respiratory Therapy Program Inventory

Maps Indicating Location and Type of School

Offering Programs in Respiratory Therapy

RESPIRATORY THERAPY PROGRAM INVENTORY - KENTUCKY 1981

The following table indicates which institutions in Kentucky offer respiratory therapy programs.

INSTITUTIONS	Respiratory Technician (C)	Respiratory Therapy (AD/BS)
Public Senior Institutions		
University of Louisville		X(AD) Certificate
Public Community Colleges		
Jefferson Community College		X(AD)
Lexington Technical Institute		X(AD)
Vocational Technical		
Glasgow School of Health Occupations	X	
Madisonville SVTS	X	
West Kentucky SVTS	X	
TOTAL	3	3

C = Certificate
AD = Associate Degree
BS = Bachelor of Science

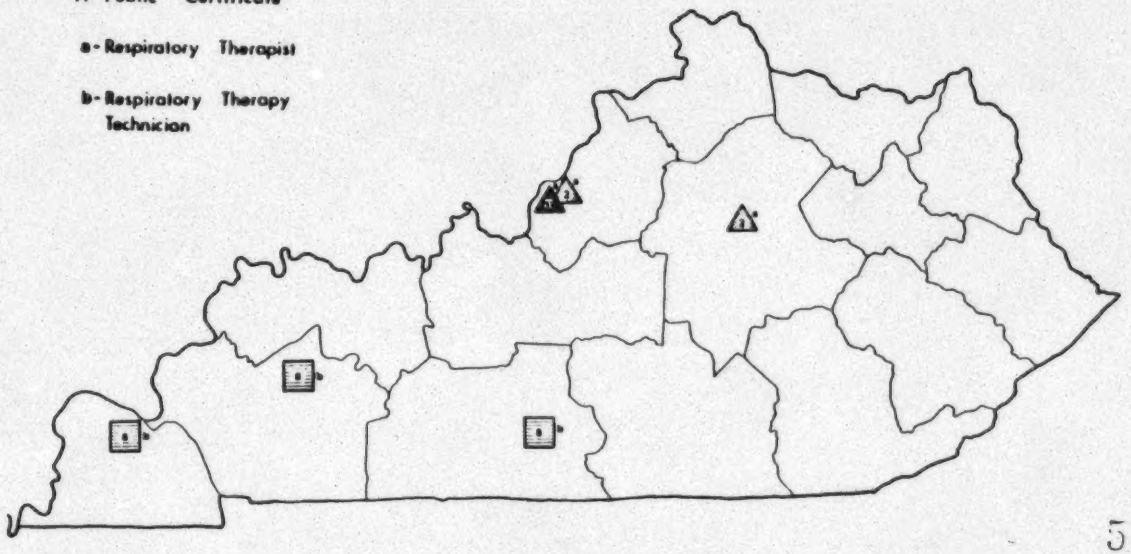
LOCATION AND TYPE OF SCHOOL OFFERING A PREPARATORY DEGREE IN RESPIRATORY THERAPY

INSTITUTION

- Public Senior Institution
- Public Community College
- Vocational Technical School

DEGREE

- 2 - Public Associate
- 8 - Vocational Certificate
- 11 - Public Certificate
- a - Respiratory Therapist
- b - Respiratory Therapy Technician



APPENDIX C

System Wide Transfer Agreement

RESPIRATORY THERAPY ARTICULATION AND TRANSFER COMMITTEE REPORT

INTRODUCTION

The Respiratory Therapy Articulation Committee was appointed in September, 1980. Membership on this Committee included three representatives from the Vocational Education Respiratory Therapy Program and three representatives from the University of Kentucky Community College System. Four of the members were Program Coordinators and two, administrative staff personnel with responsibility for coordination of programs within the two systems. In addition, a member of the Council on Higher Education Allied Health Project staff served as a consultant to the Committee.

The initial meeting of the Committee was held on October 7, 1980. An overview of the articulation process, tasks to be performed, timeframe for completion, and format for the Committee report were reviewed at that time. A schedule for completing the assigned activities was set to comply with the April 1, 1981, deadline.

Committee Charge and Limitations

The specific charge to the Committee was to develop a systematic articulation program structure which would lead to a means of granting credit for vocational courses toward degrees conferred by the University of Kentucky Community College System. Four tasks were identified as essential in developing a model articulation and transfer plan. These were as follows:

1. Obtain specific exit competencies for each course offered in the curricula of the programs under review. Attention should focus on the minimum exit level of performance required.

2. Review and compare all exit competency statements for similarities and/or differences in the nature and scope of content, level of difficulty in required performance and any prerequisite knowledge or skills involved.

3. Write a proposed model Articulation and Transfer plan for the Community College System and the State Vocational-Technical Schools.

4. Make recommendations for implementing the proposed Articulation and Transfer plan.

Certain limitations were identified as areas not within the responsibility of this Committee. These were:

1. The Committee should not become involved in determining duplication of programs or courses or in the justification for programs of or courses.

2. The Committee should not become involved in administrative details such as evaluating the effectiveness of specific programs or courses.

3. The Committee is not responsible for identifying those State Vocational-Technical Schools which meet the Articulation and Transfer of credit agreement standards (exit competencies). This will be done by the Bureau of Vocational Education.

4. The Committee is to limit themselves to the development of program articulation and transfer of credit plan between the Community College System and the State Vocational-Technical Schools.

The Articulation report should be completed no later than April 1, 1981.

Procedures

In order to complete the four tasks assigned to the Committee, there was a review of pertinent information regarding the characteristics of the Respiratory Therapy Technician and Respiratory Therapist Programs. Philosophy, expectations of graduates, admission criteria/guidelines, curriculum, including course descriptions, prerequisites, minimum level exit competencies and course outlines, specific skills, and evaluation practices were included in the review of both programs. It was noted that a Community College System committee had begun work on the development of special examiniations for respiratory therapy.

The Committee agreed that transfer/articulation to the Respiratory Therapist Program would be based upon completion of the Respiratory Therapy Technician Program. This is due to the sequence and content of courses in the Respiratory Therapy Technician curriculum over the one year period.

Review of the 13 Respiratory Therapist courses was conducted in relation to commonalities and dissimilarities within the Respiratory Therapy Technician curriculum. The investigation was done with a concern for identifying that content which might be transferable to the Respiratory Therapist Program.

Proposed Articulation and Transfer Plan

After careful review of the Respiratory Therapy Technician and Respiratory Therapist curricula, the Committee recommends that 31 hours of credit to be awarded to graduates of the Bureau of Vocational Education Respiratory Therapy Technician Programs. This credit would be awarded after these graduates have completed the first year general education courses in the approved curriculum at the Community Colleges and have been admitted to the Community College System Respiratory Therapist

Program. For Respiratory Therapy Technicians who graduated prior to 1981, the Bureau of Vocational Education will be responsible for verifying graduate competence and recommending credit to the Community College System.

Course content in the Respiratory Therapy Technician Program is not comparable to the Respiratory Therapy Seminar (RES225) and the Respiratory Therapy Practice V (RES 226) courses in the associate degree program.

The Committee recommends:

1. that a total of 31 credit hours be awarded for the following courses based upon the identified competencies:

Course	Number of Credits
a. RES120	3
b. RES121	3
c. RES122	3
d. RES123	3
e. RES221	2
f. RES222	4
g. RES210	3
h. RES223	3
i. RES224	3
j. RES215	2
k. RES216	2
	31

2. that the Fall 1981 be the target date for implementing the articulation and implementation plan.

3. that the Bureau of Vocational Education be responsible for verifying to the Community College System the competencies of Respiratory Therapy Technicians who graduate prior to 1981.

4. that the Community College System and Bureau of Vocational Education give consideration to staff and faculty development necessary to implement this agreement.

5. that the final report be disseminated to the Community College System and the Bureau of Vocational Education for their review, consideration and/or recommendations, and that appropriate action be taken by these units for implementation in the Fall 1981

6. that a mechanism be developed to incorporate into this agreement, any curriculum and/or instructional change in the Community College System or the Bureau of Vocational Education that may affect this agreement.

7. that an ongoing evaluation plan be developed jointly between the Bureau of Vocational Education and the Community College System to assess the effectiveness and the viability of the Articulation and Transfer Plan.